

### HIGH EFFICIENCY RECTIFIER

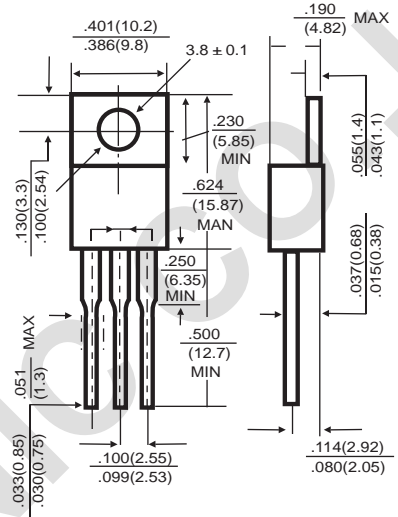
<p><b>FEATURES</b></p> <ul style="list-style-type: none"> <li>• Low power loss,high efficiency.</li> <li>• Low leakage.</li> <li>• High speed switching.</li> <li>• High current capability.</li> <li>• High surge capability.</li> <li>• High temperature soldering guaranteed: 250°C/10 seconds,0.16" (4.3mm)lead length from case.</li> </ul> <p><b>MECHANICAL DATA</b></p> <ul style="list-style-type: none"> <li>• <b>Case:</b>Transfer molded plastic</li> <li>• <b>Epoxy:</b>UL94V-0 rate flame retardant</li> <li>• <b>Polarity:</b>As marked.</li> <li>• <b>Lead:</b>Plated lead ,solderable per MIL-STD-202E method 208C</li> <li>• <b>Mounting torque:</b>5 in-lbs.max.</li> <li>• <b>Weight:</b>0.08 ounce,2.24 grams</li> </ul>	<p>VOLTAGE RANGE 50 to 400Volts CURRENT 16 Amperes</p>  <p style="text-align: right;">TO-220</p> <p style="text-align: center;">Dimensions in inches and (millimeters)</p>						
<p><b>MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS</b></p> <p>Ratings at 25.C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load derate current by 20%.</p>							
	SYMBOLS	HER 1601C	HER 1602C	HER 1603C	HER 1604C	HER 1605C	UNITS
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	50	100	200	300	400	Volts
Maximum RMS Voltage	$V_{RMS}$	35	70	140	210	280	Volts
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	300	400	Volts
Maximum Average Forward Rectified Current at $T_c=75^\circ C$	$I_{(AV)}$	16					Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	200					Amps
Maximum Instantaneous Forward Voltage Drop at 8.0A	$V_F$	1.0			1.3		Volts
Maximum DC Reverse Current at rated DC blocking voltage per element	$I_R$	$T_c=25^\circ C$					$\mu A$
		$T_c=100^\circ C$					
Maximum Reverse Recovery Time(NOTE 1)	$t_{rr}$	60					nS
Typical Junction Capacitance(NOTE 2)	$C_J$	40					pF
Typical Thermal Resistance(NOTE 3).	$R_{\theta JA}$	2.5					$^\circ C/W$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-65 to +150					$^\circ C$
<p><b>NOTES:</b></p> <ol style="list-style-type: none"> <li>1. Test condition: <math>I_F=0.5A, I_R=1.0A, I_{RR}=0.25A</math>.</li> <li>2. Measured at 1MHz and applied reverse of 4.0volts.</li> <li>3. Unit mounted on heatsink.</li> <li>4. Suffix "C" =Common Cathode, "A" = Common Anode, "D" =Double connection</li> </ol>							

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

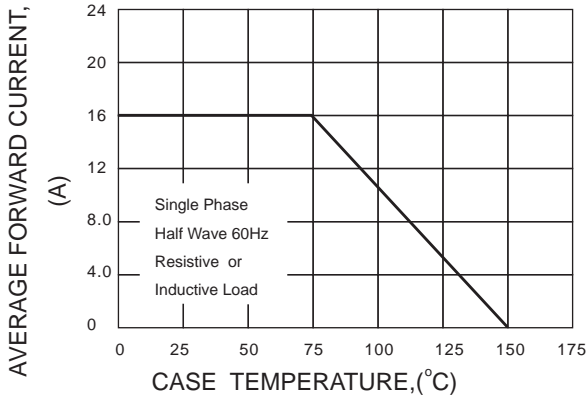


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

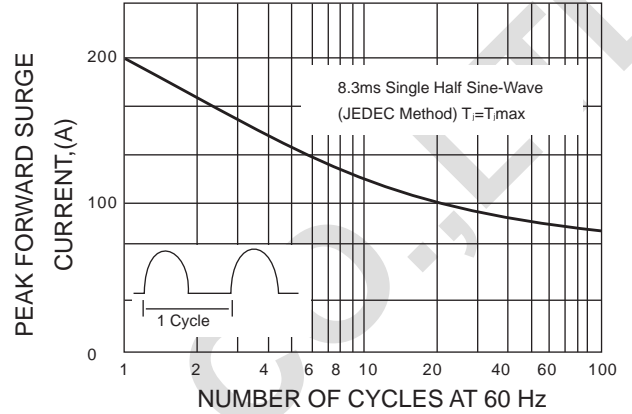


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

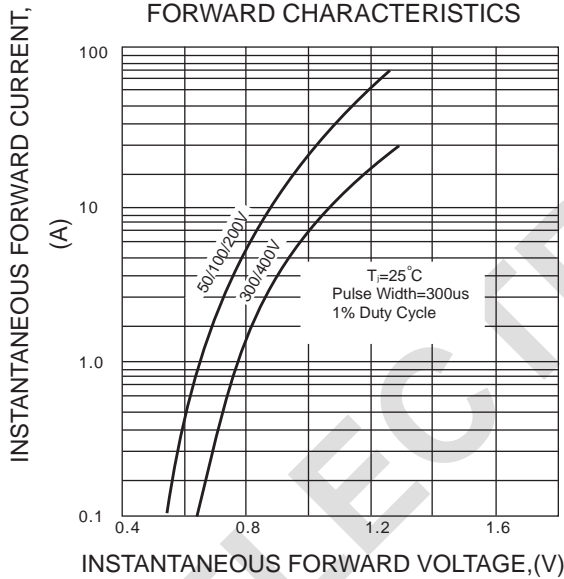


FIG.4-TYPICAL REVERSE CHARACTERISTICS

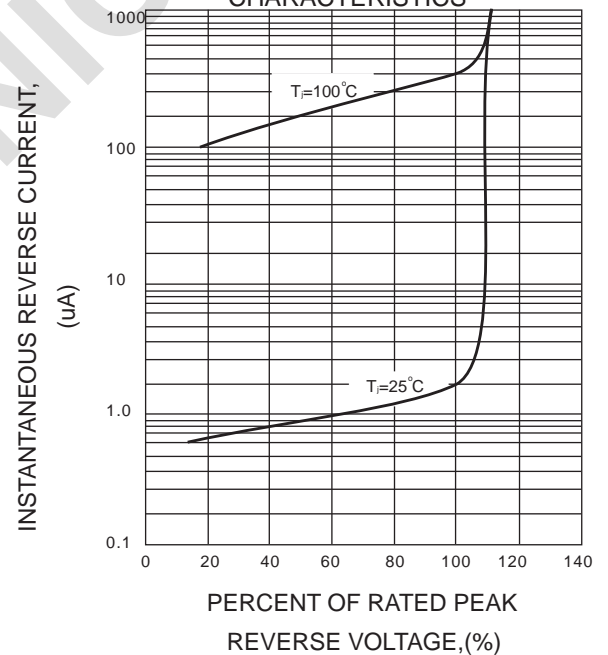


FIG.5-TYPICAL JUNCTION CAPACITANCE

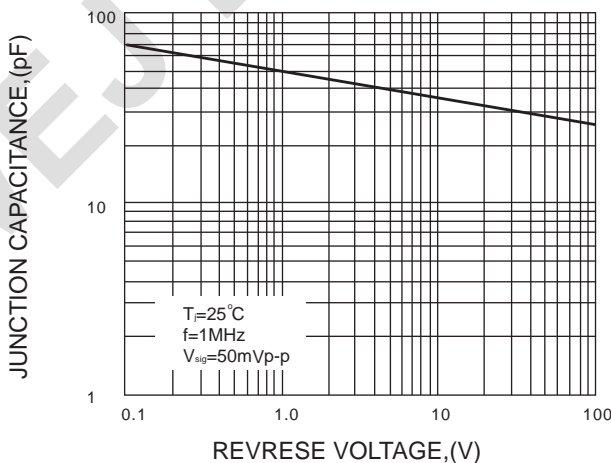
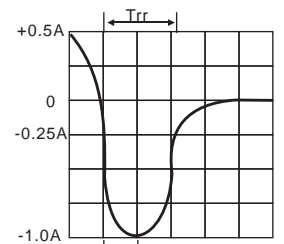
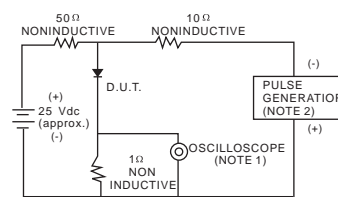


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES: 1. Rise Time=7ns max. Input Impedance=1 megohm. 22pF  
2. Rise time=10ns max. Source Impedance=50 ohms